327 IAC 8-13-11 Secondary Maximum Contaminant Levels

Authority:

Affected:

Sec. 11. (a) A public water system shall be continuously operated and maintained so that the water is:

(1) safe in quality;

(2) clean and adequate in quantity; and

(3) chemically satisfactory for ordinary domestic consumption.

(b) All *Community and Nontransient Noncommunity* public water systems shall test for the following aesthetic effects at least one time per year:

(1) Iron.

(2) Manganese.

(c) A public water system shall test for the following aesthetic effects in table 11-1 upon a written request by the commissioner:

Table 11-1: SECONDARY MAXIMUM CONTAMINANT LEVELS

Constituent	SECONDARY MCL
Aluminum	0.05 to 0.2 mg/L*
Chloride	250 mg/L
Color	15 color units
Copper	1.0 mg/L
Corrosivity	Non-corrosive
Foaming Agent	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 TON (threshold odor number)
pH	6.5-8.5
Silver	0.1 mg/l
Sulfate	250 mg/L
Total Dissolved Solids (TDS)	500 mg/L
Zinc	5 mg/L
mg/L is milligrams of substance per liter of water	

(d) A written request by the commissioner shall include the following:

(1) Investigation of complaints from the customers.

(2) Which contaminant to sample.
(3) Frequency of sampling.
(4) Justification of the need for sampling.

(e) If a public water system exceeds the secondary maximum contaminant level listed in Table 11-1 for more than two (2) consecutive sampling periods where the sampling frequency is three (3) months apart or greater, treatment *or mitigation* of secondary contaminants may be required. *Prior to making a decision that treatment is necessary, the commissioner shall consider the following:*

(1) Complaints from customers.
(2) Magnitude of the exceedance of the secondary contaminant.
(3) Results of an affordability analysis performed by the system where treatment options or mitigation are analyzed and their costs are determined and ranked.
(4) The ability of customers to afford the additional cost of treatment *or mitigation*.
(5) The willingness of customers to pay for the additional cost of treatment or mitigation.
(6) Outcome of a public meeting or other public process with customers where subdivisions (1) through (5) are discussed.
(7) The system shall provide the information listed in subdivisions (3),(4), (5) and (6), if requested in writing by the commissioner, in order for the commissioner to make a determination of the need to treat for a secondary contaminant exceedance.
If sampling is done more frequently than every three (3) months, a running annual average shall be used. *If a system agrees to treat the water for an exceedance of a secondary contaminant, subdivisions (3), (4), (5), and (6) need not be performed.*

(f) *If treatment or mitigation does not resolve the exceedance, the commissioner may require the system to undertake additional treatment or mitigation activities.*

(g) The monitoring required by this section shall be done using the following analytical methods:
(1) Measurements for pH and copper shall be conducted using one (1) of the methods listed in section 327 IAC 8-2-45.
(2) Measurements for fluoride shall be conducted using one (1) of the methods listed in section 327 IAC 8-2-4.2.
(3) Measurements for aluminum shall be conducted using one (1) of the methods listed below:
(A) Method 200.7;*
(B) Method 200.8;*
(C) Method 200.9;*
(D) Method 3120 B;*
(E) Method 3113 B; or*
(F) Method 3111 D.*
(4) Measurements for chloride shall be conducted using one (1) of the methods listed below:
(A) Method 300.0;*

(B) Method D4327-91*;
(C) Method 4110 B*;
(D) Method 4500-Cl⁻ D*; or
(E) Method 4500-Cl⁻ B*.

(5) Measurements for color shall be conducted using Method 2120 B*.

(6) Measurements for foaming agents shall be conducted using Method 5540 C*.

(7) Measurements for iron shall be conducted using one (1) of the following methods:
(A) Method 200.7*;
(B) Method 200.9*;
(C) Method 3120 B*;
(D) Method 3111 B*; or
(E) Method 3113 B*.

(8) Measurements for manganese shall be conducted using one (1) of the following methods:
(A) Method 200.7*;
(B) Method 200.8* ;
(C) Method 200.9*;
(D) Method 3120 B*;
(E) Method 3111 B*; or
(F) Method 3113 B*.

(9) Measurements for odor shall be conducted using Method 2150 B*.

(10) Measurements for silver shall be conducted using one (1) of the following methods:
(A) Method 200.7*;
(B) Method 200.8*;
(C) Method 200.9*;
(D) Method 3120 B*;
(E) Method 3111 B*;
(F) Method 3113 B*; or
(G) Method I-3720-85*.

(11) Measurements for sulfate shall be conducted using one (1) of the following methods:
(A) Method 300.0*;
(B) Method 375.2*;
(C) Method D-4327-91*;
(D) Method D516-90*;
(E) Method 4110 B*;
(F) Method 4500-SO_4^{2-} F*;
(G) Method 4500-SO_4^{2-} C,D*; or
(H) Method 4500-SO_4^{2-} E*.

(12) Measurements for TDS shall be conducted using Method 2540 C*.

(13) Measurements for zinc shall be conducted using one (1) of the following methods:
(A) Method 200.7*;
(B) Method 200.8*;
(C) Method 3120 B*; or
(D) Method 3111 B*.

**Methods referenced in this section may be obtained as follows:*

(1) Methods 300.0 and 375.2 may be found in "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA/600/R-93-100, August 1993, available at NTIS, PB94-120821.

(2) Methods 200.7, 200.8, and 200.9 may be found in "Methods for the Determination of Metals in Environmental Samples – Supplement 1:, EPA/600/R-94-111, May 1994, available at NTIS, PB 95-125472.

(3) Methods D4327-91, D512-89B, and D516-90 may be found in "Annual Book of ASTM Standards, 1994 and 1996", Vols. 11.01 and 11.02, American Society for Testing and Materials. Copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

(4) Methods 3120 B, 3113 B, 3111 D, 4110 B, 4500-Cl⁻ D, 4500-Cl⁻ B, 2120 B, 5540 C, 3111 B, 2150 B, 4500-SO_4^{2-} F, 4500-SO_4^{2-} C,D, 4500-SO_4^{2-} E, and 2540 C may be found in 18th and 19th editions of "Standard Methods for the Examination of Water and Wastewater", 1992 and 1995, American Public Health Association, either edition may be used. Copies may be obtained from the American Public Health Association, 1015 Fifteenth Street NW, Washington, DC 20005.

(5) Method I-3720-85 may be found in "Techniques of Water Resources Investigation of the U.S. Geological Survey", Book 5, Chapter A-1, 3rd Ed. 1989, available from Information Services, U.S. Geological Survey, Federal Center, Box 25286, Denver, CO 80225-0425.

These methods are available for copying at the Indiana Department of Environmental Management, Office of Water Quality, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206.